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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,296	07/06/2005	Zhenghe Han	931A 3750 PCT	6638

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EXAMINER	
WARTALOWICZ, PAUL A	
ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,296	HAN ET AL.	
	Examiner	Art Unit	
	PAUL A. WARTALOWICZ	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 5, 9, 10-14, 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hebard (U.S. 4966885).

Hebard teaches a process wherein a superconducting material YBCO is treated at the claimed energy and incidence angle wherein the ions are chosen from the claimed elements (col. 2).

As the process of irradiating the superconductor at the claimed process conditions, it appears that the modification would be bulk, external, or internal; the surface of the of the material is monocrystalline, amorphous, or polycrystalline; the surface is polished or unpolished.

These claimed properties appear to be inherently taught by the prior art as the prior art process is substantially similar to the claimed process.

Claims 1-4, 6, 8,10-14, and 16 are rejected under 35 U.S.C. 102(b, e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Reade et al. (U.S. 6809066).

Reade et al. teach a method for ion texturing superconducting devices (col. 1) wherein materials to be textured include MgO, YSZ, ceria, nickel alloys, etc. (col. 3) wherein the claimed elements are used in the ion beam, claimed energies (col. 13) and the claimed angles (col. 11) are disclosed.

As the process of irradiating the superconductor at the claimed process conditions, it appears that the modification would be bulk, external, or internal; the surface of the of the material is monocrystalline, amorphous, or polycrystalline; the surface is polished or unpolished.

These claimed properties appear to be inherently taught by the prior art as the prior art process is substantially similar to the claimed process.

As to the limitation of wherein alloying constituents of the metal alloys are at least 0.1 wt%, one of ordinary skill in the art at the time applicant's invention was made would

recognize that this limitation would be met by a multitude of metal alloys that would be used in accordance with the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hebard (U.S. 4966885) in view of Chu et al. (U.S. 6251835).

Hebard teach a method as described above.

Hebard fail to teach wherein the superconductor is annealed at the claimed temperature after texturing.

Chu et al. teach a method of making superconductors (col. 1) wherein the YBCO is annealed after ion texturing for the purpose of restore crystallinity (col. 8-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide the YBCO is annealed after ion texturing in Hebard in order to restore crystallinity (col. 8-9) as taught by Chu et al.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reade et al. (U.S. 6809066) in view of Doi et al. (U.S. 6316391) and Shindo et al. (U.S. 5738731).

Reade et al. teach a method of texturing superconductors as described above.

Reade et al. fail to teach a method of texturing semiconductors.

Shindo et al., teach a method of making a solar cell (col. 1) wherein it is known to texture the claimed semiconductors (col. 181-182, Entire Document).

Doi et al. teach that it is known to use GaAs as a substrate for a superconductor (col. 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide wherein it is known to texture the claimed semiconductors (col. 181-182, Entire Document) in Reade et al. in order to provide a textured substrate for a superconductor (col. 7) as taught by Shindo et al. and Doi et al., respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL A. WARTALOWICZ whose telephone number is

(571)272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Wartalowicz
July 21, 2008

/Steven Bos/
Primary Examiner
A.U. 1793